

# **HaloSat Project**

## **Configuration Management Plan**

**HALOSAT-PLAN-0004**

**Revision -**

**Effective Date: 5/18/2016**

**Expiration Date: 5/18/2021**

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**Goddard Space Flight Center  
Wallops Flight Facility**

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## **CM FOREWORD**

This document is a HaloSat Project project-controlled document. Changes to this document require prior approval of the HaloSat Project Configuration Control Board (CCB) chairperson or designee. Proposed changes shall be submitted per section 4 of this plan

In this document, a requirement is identified by "shall," a good practice by "should," permission by "may" or "can," expectation by "will," and descriptive material by "is."

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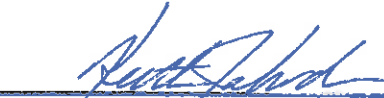
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## CHANGE HISTORY LOG

Revision Level	DESCRIPTION OF CHANGE	Date Approved
Rev. -	Baseline Release. Approved by CCR - 001	5/18/2016

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## **1.0 Purpose**

The purpose of this document is to define the policies, procedures, and requirements for the Configuration Management (CM) of flight hardware documentation, mission-critical ground support equipment (GSE), and associated documents and drawings for the HaloSat Mission. This procedure satisfies the requirements of the Goddard Procedural Requirement (GPR) 1410.2, Configuration Management, in accordance with the Center's Management System.

### **1.1 Applicability**

This document describes the CM system utilized by the HaloSat project. This includes configuration baselines, configuration item identification, controlling changes to configuration items and controlled documents, maintaining status tracking/accounting records, and information dissemination.

The requirements of this document shall be implemented from the time of initial release of documentation through completion of the HaloSat project. The HaloSat Project Manager or his/her designee shall ensure that all participating Goddard Space Flight Center (GSFC) organizations, partners, and contractors comply with the intent of this procedure.

The baseline is established at a point in the mission or component development where it is necessary to define a departure point for beginning formal controls over future changes to documents and drawings. Document baseline occurs upon the official release of a document. Drawing baseline occurs before new hardware fabrication and prior to component assembly. Once a configuration baseline is established, all changes to drawings and controlled documents shall be documented and processed through the HaloSat Project CM System.

Responsibility for developing and maintaining HaloSat documentation (specifications, schematics, drawings, processes, material/parts lists, software programs and test procedures) resides with the HaloSat team member responsible for that particular document.

All controlled HaloSat Project documentation shall be available for team member reference via the HaloSat documentation system at: [http://128.255.34.146/mediawiki/index.php/Main\\_Page](http://128.255.34.146/mediawiki/index.php/Main_Page)

### **1.2 Reference Documents**

GPR 5100.4, Supplier Quality Audits  
GPR 5330.1, Product Processing, Inspection and Test  
GPR 1410.2D, Configuration Control  
500-PG-8700.2.5, Engineering Drawing Requirements Manual  
GSFC Form 4-35, Configuration Change Request

### **1.3 Training**

Training on the configuration control processes and the HaloSat documentation system will be available and offered to project personnel, on an as-needed basis.

## 1.4 Records

Record Title	Record Custodian	Retention
Project records including, but not limited to:  Signed documents and drawings	HaloSat Documentation System (a Wiki page)  Available electronically via: <a href="http://128.255.34.146/mediawiki/index.php/Main_Page">http://128.255.34.146/mediawiki/index.php/Main_Page</a>	Cut off records at close of HaloSat project

## 2.0 Documentation Identification

A HaloSat document number is required for project-controlled documentation. This control/tracking number may be pre-assigned prior to submittal (if it is to be referenced during the time it is being prepared) or it may be assigned at the time that the document is submitted for review and/or final approval. All project-controlled documents will be listed in a Controlled Documents List (CDL).

### 2.1 Numbering Systems

#### 2.1.1 Documents

A unique document identification number shall be given to all documents. The following guideline will be used to generate document numbers. The project name (HaloSat) will be followed by document type (see below) and a four-digit sequential number based on the document type as a request for document numbers is received. The revision letter is advanced in alphabetical order as approved revisions are incorporated into the document, starting with Revision “-” (also referred to as the “baseline” version) and continuing with A, B, C, etc.

Document types are currently listed as those shown below, although document types may be added/removed by the CMO should the need arise:

ANYS: Analysis (ex. Analysis reports)  
 CDRL: Contract Deliverable Requirements List  
 CORR: Correspondence (ex. Memos, emails)  
 EIDP: End Item Data Package  
 FIN: Financial Documentation  
 FORM: Project-Specific Forms

HDBK:	Handbooks, User Guides, Instruction Manuals
ICD:	Interface Control Documentation (ex. ICDs, IRDs, IDDs)
LEGL:	Contracts or Legal Agreements (ex. MOU, MOA, LOU, LOA)
LIST:	General Lists (Parts, Materials, Document Lists)
LOG:	Logbooks from Certification, Testing and Monitoring
PLAN:	Plans (ex. Outline of activities/procedures to be performed)
PROC:	Procedures (ex. Step-by-step descriptions of PLAN activities)
RQMT:	Requirements (example: what functions shall be accomplished)
REVW:	Review Packages and Presentations (ex. CDRs, PDRs)
RPT:	Reports (ex. Test or Status Reports)
SCHD:	Schedule Related Documentation
SOW:	Statements of Work
SPEC:	Specifications (example: how something shall be designed/built)
TN:	Technical Notes
TRD:	Trade Studies
WBS:	Work Breakdown Structure

Partner and or contractor-originated documents submitted to the HaloSat documentation system for posting shall receive a HaloSat project CM identification number for internal CM tracking, although the originator's document control number will remain in effect.

### **2.1.2 Drawings**

Blocks of official drawing numbers are issued by the Mechanical Engineering Branch/Code 543 and shall be obtained by the HaloSat Project Manager for distribution to project team members or organizations during the design phase, as required. All drawings shall be assigned a unique GSFC control number, and may contain a suffix of either ETU (Engineering Test Unit) or FLT (Flight), if deemed applicable. Drawings received from a subcontractor will be entered into the system using the subcontractors' numbers whenever possible (usually as a Reference Drawing).

The HaloSat instrument team can assign drawing numbers in accordance with the process in place at the University of Iowa.

## **2.2 Required Information and Style**

### **2.2.1 Documents**

HaloSat documents fall into three categories: Project Controlled Documents, Signature Controlled Documents, and Reference Documents.

Project Controlled Documents - Those documents subject to approval by the Project CCB for baseline and subsequent modification. Project controlled documents (also called CCB controlled documents) include mission level and subsystem level requirements, specifications, SOWs/SPECs for procured items, and other documents at the discretion of the Project Manager.



Signature Controlled Documents - Those documents that are not subject to HaloSat CCB control, but are formally managed through the use of signature control. The most current version of a signature-controlled document shall always be available on the HaloSat documentation system.

Reference/Records Documentation – Documentation that may include presentations, analyses, reports, most Contract Data Requirements Lists (CDRLs) or other Project work records that do not require baseline approval, signature control, nor configuration control by the HaloSat CCB. These documents are archived in the HaloSat documentation system and are accessible for ready reference and information by the HaloSat Team

The cover sheet of all HaloSat Project/CCB controlled documents will include, at a minimum, the document title, the name and code of the responsible organization, an effective date, an expiration date, document number, and revision indicator. All documents issued shall contain the following footer on the first page (at a minimum):

*Check [http://128.255.34.146/mediawiki/index.php/Main\\_Page](http://128.255.34.146/mediawiki/index.php/Main_Page)  
to verify that this is the correct version before use.*

### 2.2.2 Drawings

NASA GSFC/WFF drawings shall conform to the standards specified in the GSFC Engineering Drawing Requirements Manual (500-PG-8700.2.5). Drawings shall be in the proper format as required by the Design Manual.

Partners and contractors can use their own internal drawing standards and formats.

## 3.0 HaloSat Configuration Change Board (CCB)

The HaloSat Project shall formally control new releases and changes to all project controlled documentation through a CCB process.

### 3.1 General

The purpose of the HaloSat Project CCB is to determine the impact of proposed changes on the project and to make recommendations to the CCB Chairperson for approving, disapproving, or deferring for further study each CCR submitted to the Board by HaloSat Project team members.

There are three levels of priority for processing CCRs: Routine, Urgent, and Emergency.

- a. **Routine:** This priority shall be used when the conditions specified in the Emergency and Urgent priorities do not exist. The CCB convenes and acts upon the CCR within 2 weeks of receipt. Typically, routine CCRs will be processed during the weekly HaloSat Team Meeting
- b. **Urgent:** This priority shall be used to effect a change that, if delayed, would cause schedule slippage or cost increase. The CCB convenes and acts upon the CCR within 1 week of receipt.

- c. **Emergency:** This priority shall be assigned when failure to implement a change in operational characteristic may seriously compromise the effectiveness of the equipment or when a hazardous condition exists that may result in fatal or serious injury or extensive damage or destruction of the equipment. Emergency changes include modifications required to assure the safety of flight and ground personnel and changes related to products that are in a process that, without immediate change, will adversely impact cost or schedule. The CCB convenes and acts within 24 hours.

Final decisions on all CCB recommendations shall be the responsibility of the CCB Chairperson, who shall provide signature approval or disapproval of all change actions submitted to the CCB.

CCRs may be dispositioned either electronically or by convening a formal CCB, although all comments/approvals are noted online in a comment matrix within the TDMS. Formal CCB meetings will be at CCB Chairperson's discretion and will nominally be held during the weekly HaloSat Team Meeting. Emergency CCBs may also be scheduled, if necessary, or the CCB Chairperson may waive the CCB requirement and approve the request.

### 3.2 CCB Membership

Standing members of the HaloSat CCB are:

Principal Investigator – Phil Kaaret (alternate Keith Jahoda)  
 Project Manager and CCB Chair – Tom Johnson (alternate Luis Santos)  
 Mission Systems Engineer – Luis Santos (alternate Mike Matthews)

Certain board members may not be required for all CCBs – at the discretion of CCB Chair.

Ad Hoc Members may be called as needed. The participation of ad hoc members is required only when matters related to their particular area of expertise are being considered by the CCB. The HaloSat Project ad hoc members may include:

- Project Scientist (Required to evaluate CCRs that affect science)
- Financial Analyst
- Instrument Lead
- Subsystem Leads
- I&T Lead

### 3.3 Roles and Responsibilities of Members

General responsibilities of the HaloSat Project CCB members are described below.

3.3.1 The Project Manager or his/her designee is Chairperson of the CCB and is responsible for:

- a. Ensuring that all participating GSFC functional organizations and contractors comply with the intent of this plan

- b. Authorizing the scheduling of regular, urgent, and emergency CCB meetings, and out-of-board processing of CCRs;
- c. Presiding over all CCB meetings (if called);
- d. Appointing additional members to the CCB, as the project warrants, for both the standing and the ad hoc membership;
- e. Resolving effectivity or approval requirement disputes;
- f. Ensuring that potential financial, manpower, and schedule impacts of all proposed changes have been considered;
- g. Obtaining proper authorization for technical, engineering, or resources changes which are beyond his/her personal authority; and
- h. Authorizing the establishment of baselines and making the final approval/disapproval decisions on change proposal recommendations.

3.3.2 The Configuration Management Officer (CMO) shall be a non-voting member of the CCB and shall be responsible for the administrative aspects of the CCB/CCR process to include the following:

- a. Assisting individuals with submitting electronic change requests;
- b. Verifying that each change request package is as complete as possible, with redlined change pages and the “change from” and “change to” pages attached to the proposed CCR;
- c. Notifying HaloSat project team members of the scheduled meeting date, time, location and agenda and performing as recording secretary for the CCB;
- d. Obtaining CCB Chairperson signature for approval or disapproval;
- e. Tracking and reporting CCR status through completion;
- f. Publishing and posting copies of the approved minutes and dispositioned change requests to the HaloSat documentation system in a timely manner, and notifying team members that CCR information is available for reference. If requested, distribution of such information will be made to all CCB members and affected personnel. Disapproved CCRs will be returned to the originator with direction for further action, if required;
- g. Tracking action items and ensuring that all affected documents are changed in accordance with CCB direction;

3.3.3 CCB members will be responsible for reviewing each proposed change from all aspects (technical, interface, operational, logistics, schedule, cost, and contractual) for the project. Also, they shall evaluate, disposition, and document actions for proposed changes and requests for deviations and waivers. The standing members of the CCB shall be responsible for the following:

- a. Providing thorough technical review of changes submitted to the Board;
- b. Attending CCB meetings or send a designated alternate; and
- c. Recommending approval or disapproval of the change.

3.3.4 Ad hoc members to the CCB shall be responsible for the following:

- a. Reviewing proposed changes based on their particular expertise;
- b. Supporting meetings when specifically requested and/or comments/disapproval have been noted for CCR; if team member cannot attend, shall send a designated alternate; and
- c. Recommending approval/disapproval of proposed changes.

## **4.0 Configuration Control Process**

### **4.1 Project-Controlled Documents**

The CCR form in the HaloSat documentation system is the vehicle used by the project to process, track, and document the review and approval of controlled documents and subsequent changes.

#### **4.1.1 Processing of New Project-Controlled Documents to Baseline**

When a document is ready to be formally reviewed for approval and release, it shall be submitted to the document reviewers and approvers. The document author will collect and resolve all comments and get the document signed, either directly or electronic approval (via email response). The document is then considered “baselined” and, therefore, under CM control. Each officially released document shall have a release date and revision designation. The most current version of each controlled document shall be obtained from the HaloSat documentation site, when needed.

#### **4.1.2 Processing of Changes to Project-Controlled Documents**

The originator of the proposed change is responsible for providing document change information used for change requests. The document change information should consist of redlined change pages or the detailed “change from” and “change to” descriptions for each recommended document change. Cost, schedule, design, and affected documentation impacts shall be clearly identified and provided with the change request. The determination of CCR priority level processing, whether or not to formally

convene the CCB, or whether the CCR may be processed out of board shall be made by the CCB Chairperson as previously discussed.

HaloSat personnel who have been involved in the review of documentation shall be notified via email once updated documentation has been released and it is posted within the HaloSat documentation system for their reference. To minimize the unintended use of outdated controlled documentation, HaloSat team members shall promptly dispose of documentation superseded by the approved change.

#### 4.1.3 Deviations and Waivers

A Deviation is a specific written authorization, granted *prior to* the manufacture or testing of an item, to depart from a particular performance or design requirement specified in a project controlled drawing. A Waiver is a specific written authorization, granted *after* the manufacture or testing of an item, to depart from a particular performance or design requirement of a specification or other project controlled document, but is considered suitable for use “as is”. Requests for Deviations and Waivers shall be submitted to the HaloSat CCB Chair. Processing of Deviations/Waivers is similar to the processing of CCRs (which has already been described).

#### 4.1.4 Contract Data Requirements List (CDRL) and Deliverable Items List (DIL)

CDRL and DIL items submitted for information and record keeping shall be entered directly to the HaloSat documentation system as reference items. If and when an updated CDRL item has been received, the PDL shall verify all changes have been incorporated.

### 4.2 Signature-Controlled Documents

#### 4.2.1 Processing of Signature-Controlled Documents

When a signature-controlled document is ready to be considered for official release or to make a change to a Signature Controlled Document, the responsible document owner shall post the updated document in the HaloSat documentation system. New documents shall be submitted in the manner described in 4.1.1, except that a CCB is not required to approve or release a signature controlled document. Signature Controlled Documents are reviewed and approved based on the associated approval level (A and B) identified for each document, based on the impacted subsystem.

Descriptions of the approval levels are listed below:

**Level A: Subsystem Level Flight Design and Interface Approvals:** This level documents flight design, assembly, and test before a unit reaches acceptance testing. At this level, one would expect to see drawings and procedures for assembling a component and doing lower-level testing. For this level, signature approval by the Subsystem Lead Engineer is all that is required.

**Level B: System Level Approvals:** This level documents ALL activities performed at the System level (including activities such as mechanical and electrical integration of a component into the system, Comprehensive Performance tests, added test procedures run on the flight system, and

activities required to configure the spacecraft or instrument system for future activities. This level requires approval from the subsystem lead engineer and Systems Engineering.

After a document has all required signature(s) it is ready to be released and shall be placed on the HaloSat documentation system. Documents written in Word should have a watermark noting "Released Version", while for documents written in Excel, the Released Version marking is generally found in the footer. The most current version of each controlled document shall be obtained from the HaloSat documentation system, when needed.

#### 4.2.2 Contract Data Requirements List (CDRL) and Deliverable Items List (DIL)

CDRL and DIL items submitted for information and record keeping shall be entered directly into the HaloSat documentation system as reference items. If and when an updated CDRL item has been received, the document lead shall verify all changes have been incorporated.

### 4.2 Reference Documents

Other documentation may be submitted for information and/or reference purposes. In these cases, the applicable revision/date shall be identified in the HaloSat documentation system by the user/author. Reference documentation should be submitted in the manner described in 4.1.1, without a CCR or signature required.

### 4.3 Drawings

#### 4.3.1 New Drawings

The originator is responsible for creating new drawing records in the HaloSat documentation system, posting the associated drawing files, and assigning reviewers. For all flight drawings, the designer and lead engineer, shall review and sign the drawing, approving its release. The Systems Engineer reserves the right to review any drawing at any time. For all non-flight drawings, the lead engineer shall review and sign the drawing, as a minimum, approving its release.

After a drawing has all required signature(s), the drawing is released and considered "baselined". It is then placed on the HaloSat documentation system.

Design changes may require that new drawings be produced. A new drawing shall be required for new parts and for parts that have been modified to the extent that they are not interchangeable with existing parts due to form, fit, or function (i.e., new material, dimensional changes, and different surface treatment). Examples such as these do not prohibit a part from being physically interchangeable, but may affect the function of the part and not permit interchangeability.

#### 4.4.2 Drawing Changes

All changes to NASA/GSFC generated HaloSat drawings shall be initiated by completing and

submitting an EO form. The lead engineer is responsible for reviewing the submittal for completeness of information, ensuring a complete listing of affected documents and drawings is included. The methodology for revising drawings is described in the GSFC Engineering Drawing Standards Manual (500-PG-8700.2.5).

The submitting individual has the authority to decide if they need a particular drawing change incorporated immediately. As a general guideline, once five EOs have been approved for a particular drawing, the appropriate drafter/designer may incorporate the requested changes and submit an updated drawing for release.

Once the EO has been approved, the proposed changes to the drawing may be incorporated. The drafter/designer shall be responsible to incorporate changes to the drawing, and the lead engineer shall be responsible for verifying that all approved changes are reflected in the applicable documentation.

HaloSat partners and contractors can use their own processes to make drawing changes.

#### **4.5 Obsolete Documents and Drawings**

Once a new controlled version of a document is released, all previous versions should be removed from the HaloSat documentation system. If prior versions need to be left on the HaloSat documentation systems they shall be clearly marked SUPERSEDED in large, bold letters, so that team members can clearly identify it as an outdated version to prevent unintended use.

### **5.0 Special Requirements for Hardware Configuration Control**

#### **5.1 Identification**

For every Configured Item (CI), configuration identification shall be established in the form of hardware numbering and technical documents/drawings. CI selection is the process of separating the elements of a system into individually identified subsets for managing their development. They are selected based upon the need to control the item's inherent characteristics, including interface with other items.

All CI parts, components and assemblies shall be marked with the unique part number and serial number. Part numbers are typically the applicable drawing or specification number. All certifications shall use the assigned part numbers and serial numbers to ensure traceability.

CI documents and drawings are required to define and document the development and acceptance of each component or payload assembly. CI documents and drawings include design documents, interface control documents, block diagrams, schematics, drawings, procedures and reports, work orders, certification logs containing the as-built part/material identification, as-run test procedures, running/cycle time logs, as well as the analyses and other records.

#### **5.2 Delivery and Acceptance**

Prior to delivery of hardware, suppliers (including in-house groups), will deliver an End-Item Data Package (EIDP) to the HaloSat Project. The HaloSat Team will conduct a review and audit of the end-item data package, which will be performed in conjunction with the delivery review.

### **5.3 Traceability**

The traceability of HaloSat flight hardware, from incoming inspection through final delivery, shall be tracked by a documentation/tracking system. For flight hardware processing at the WFF a Work Order Authorization (GSFC 4-30) can be used. Partners and contractors shall use their internal system and processes to maintain traceability of flight hardware.

### **6.0 Configuration Status Accounting**

Configuration status accounting is the identification, recording, tracking and reporting of all configured documentation and drawings and their associated changes. This will be accomplished by using a Controlled Documents List (CDL). The project CMO is responsible for maintaining, tracking and reporting the information needed to manage and assess project configuration status effectively after it has been submitted to the HaloSat documentation system.

### **7.0 Configuration Management Audits**

The purpose of configuration audits is to prove that the actual configuration of hardware CIs conforms to the intended configuration (the "as-built" configuration matches the "as-designed" configuration).

#### **7.1 Configuration Audits of Suppliers**

The HaloSat Project is responsible for ensuring that the CM discipline in this procedure is implemented throughout the HaloSat project in accordance with this procedure. Audits of CM activities within an supplier organizations may be planned, conducted, and recorded, to ensure implementation of this procedure as directed by the Project Manager. Audits will be scheduled and audit teams appointed at the Project Manager's or Systems Engineers discretion. The required membership of the audit team depends on the complexity of the equipment, the volume and type of documentation associated with the hardware, and the depth and detail of the documents to be audited. These audits shall be in accordance with GPR 5100.4 Goddard Supplier Assessment Process.

#### **7.2 Verification**

At approximately the CDR peer review, systems engineering develops a verification plan and/or matrix. The decision to write a more extensive plan is dependent on the complexity of the verification, and at the discretion of, the levied party and systems engineer. A requirement is considered "closed" when the record or artifact is entered or released in the HaloSat documentation system (test report, analysis, closed work order authorization (WOA), etc.) and a requirement is considered "open" when it is not.



## Appendix A – Definitions

- A.1 **Baseline** – The point at which formal configuration control begins, and after which all changes shall be tracked and approved.
- A.2 **Configuration Baseline** - The point at which the configuration documentation is initially approved by the Configuration Control Board and after which all changes to that documentation shall be tracked and approved via the HaloSat configuration change request process.
- A.3 **Configuration Change Request (CCR)** - A documented request to issue, change, revise, or delete a controlled document and/or request a change to configured items. Required information for CCR submittal includes the following: rationale, applicability, impacts, cost impacts, etc. CCR approval by HaloSat CCB is required before changes become authorized.
- A.4 **Configuration Control** - The systematic evaluation, coordination, and formal approval/disapproval of proposed changes and implementation of all approved changes to the design and production of a Configuration Item (CI) whose configuration has been formally approved by either the contractor or NASA.
- A.5 **Configuration Control Board (CCB)** – The collective group of designated HaloSat management personnel and technical advisors responsible for recommending the approval or disapproval of all proposed changes to configured items. The HaloSat CCB is chaired by the Project Manager.
- A.6 **Configuration Identification** – The process that applies unique identification to configuration items, e.g., unique numbering systems, etc.
- A.7 **Configuration Item (CI)** – The term applied to the product and/or selected components that are designated by the Project as subject to CMO requirements and procedures. The “product” may be a system, subsystem, equipment, instrument package, data, software, or component, and includes its related documentation.
- A.8 **Configuration Management (CM)** – the systematic control and evaluation of all changes to baseline documentation and subsequent changes to documentation which defines the original scope of effort to be accomplished and the systematic control, identification, status accounting, and verification of all configuration items (CI).
- A.9 **Configuration Status Accounting and Reporting** – Configuration accounting is the activity that produces records and reports of CI descriptions and all changes to the CI. It includes the recording and reporting of significant information needed to effectively manage configuration items, including such activities as maintaining the Controlled Documents List, status tracking of CCRs, status of CCB activities, and the subsequent reporting of such information to personnel and organizations associated with the Project.

- A.10 Contract Data Requirements List (CDRL) – list of required contractor deliverables of contractor deliverable items defined in the Contractor Statement of Work (SOW).
- A.11 Controlled Document List – A list of project-controlled documents that contains, at a minimum, the document title/number, current revision status, effective date, and responsible organization/individual.
- A.12 Deliverable Items List (DIL) – list of required documents to be delivered to the HaloSat Project; May also appear as DILS (Deliverable Items List and Schedule).
- A.13 Deviation – a specific written authorization, granted *before* the manufacture or testing of an item, to depart from a particular performance or design requirement of a specification, drawing, or other configured document, but is considered suitable for use “as is”. Deviations that affect mission requirements, system safety, cost, schedule, and external interfaces shall be reviewed and dispositioned (approved, disapproved, withdrawn or superseded).
- A.14 Engineering Order (EO) - A GSFC form used to request and document changes to engineering drawings. Partners and contractors should have a similar form to make changes to engineering drawings.
- A.15 Reference/Records Documentation – Documentation that may include presentations, analyses, reports, most Contract Data Requirements Lists (CDRLs) or other Project work records that do not require baseline approval nor configuration control. These documents are archived on the HaloSat documentation system and are accessible for ready reference and information by the HaloSat Team
- A.16 Signature Controlled Documents - Those documents that are not subject to HaloSat CCB control, but are formally managed by signature control. The most current version of a signature controlled document shall always be available on the HaloSat TDMS.
- A.18 Waiver – a specific written authorization, granted *after* the manufacture or testing of an item, to depart from a particular performance or design requirement of a specification, drawing, or other configured document, but is considered suitable for use “as is”. Waivers that affect mission requirements, system safety, cost, schedule, and external interfaces shall be reviewed and dispositioned (approved, disapproved, withdrawn or superseded).

**Appendix B – Acronyms**

CCB	Configuration Control Board
CCR	Configuration Change Request
CDL	Controlled Documents List
CDRL	Contract Data Requirements List
CI	Configuration Item
CM	Configuration Management
CMO	Configuration Management Officer
CO	Contracting Officer
COTR	Contracting Officer Technical Representative
DID	Data Item Descriptions
DIL	Deliverable Items List (and Schedule)
DOORS	Dynamic Object-Oriented Requirements System
EO	Engineering Order
HaloSat	CubeSat mission to help resolve the missing baryon problem
GPR	Goddard Procedural Requirements
GSE	Ground Support Equipment
GSFC	Goddard Space Flight Center
ICD	Interface Control Document
I&T	Integration and Test
PM	Project Manager
MOC	Mission Operations Control Center
NASA	National Aeronautics and Space Administration
PG	Procedures and Guidelines
PI	Principal Investigator
PR	Procurement Request
QA	Quality Assurance
QE	Quality Engineer
MS	Management System
SYS	Systems Engineering
SMA	Safety and Mission Assurance
SOW	Statement of Work
UI	University of Iowa
WOA	Work Order Authorization

